

# VITAL POWER: ADVANCED LEAD BATTERIES

## A SAFE, SUSTAINABLE AND LOW-COST SOLUTION TO POWER OUR PLANET

Meeting the growing U.S. energy demand requires efficient energy storage technologies. Today's lead batteries provide the answer 24/7. They are the proven energy storage leader for vital industries such as transportation, energy and communications.



### SUSTAINABLE

Lead batteries are the most recycled consumer product in the U.S., with an unending product lifecycle. Modern lead battery manufacturing and recycling facilities are innovative, clean and operate responsibly to support safe, clean communities.

- + The EPA (Environmental Protection Agency) reports that lead batteries have a **99% recycling rate**, making them the most recycled consumer product in the U.S.
- + A new lead battery, on average, is comprised of more than **80% recycled lead battery material**.
- + **Lead batteries are used worldwide** in hybrid and electric vehicles to store and optimize renewable energy and as a vital energy source in remote areas.



### ESSENTIAL

Lead batteries are an essential, irreplaceable link in connecting, powering and protecting our way of life. They safeguard critical communications, power transportation and logistical networks that fuel our economy, and support back-up power systems that protect life, investments and data in an emergency.

- + Every mass-produced car and truck (**nearly 255 million**) and more than 65% of all forklifts in the U.S. contain and rely on lead batteries.
- + In thousands of hospitals across the globe, **lead batteries save lives by providing emergency power** for life-saving equipment.
- + Lead batteries ensure that when the power goes out, the internet stays on – supporting a communication infrastructure of **more than \$1 trillion**.



## INNOVATIVE

Lead batteries continue to advance, meeting our nation's changing energy needs and pushing the boundaries of what is possible to ensure peak performance and power for everyone.

- + Lead battery life has **increased by 30-35%** in the last 20 years.
- + **Innovative advancements in lead batteries** have allowed for greater use in renewable wind and solar applications.
- + By **2020**, it is predicted that **2 million tons** of vehicle greenhouse gas emissions will be eliminated each year through the use of advanced start-stop lead batteries (equivalent to the energy used by 211,000 average U.S. households).



## SAFE

Unlike newer battery technologies, lead batteries have a long history of reliable use in critical industries such as transportation, communications, security, medical, and aviation. Lead battery technology is straightforward and well understood. When used properly, consumers can be confident that lead batteries are a safe energy source for their everyday energy needs.

- + **Lead batteries operate reliably** at wide-ranging ambient temperatures and in every geographical location from hot desert conditions to cold arctic environments.
- + U.S. battery manufacturing operates under some of the most rigorous and extensive **worker and environmental protection standards** in the world.
- + Modern closed-loop recycling **safely recovers valuable materials** for use in new batteries, under tight environmental controls and **without landfilling**.

“The Sustainability Consortium’s 2017 Impact Report highlights the **lead battery** manufacturing’s strong record on worker **health and safety.**”